

IN THE CLAIMS:

1. (Currently Amended) A light emitting diode (LED), comprising an electrode adapted for electron injection, a second opposing electrode adapted for hole injection, one or more intermediate semi-conductor layers arranged therebetween and optionally one or more further layers wherein ~~the LED~~ at least one of said electrodes and layers comprises at least one substantially periodic microstructured ~~feature adapted to manipulate~~ means for manipulating emission and/or propagation of light by coupling non-radiative waveguide-modes to far-field radiation.

2. (Currently Amended) A LED as claimed in claim 1 wherein the substantially periodic microstructured ~~feature~~ means is configured to increase efficiency of emission by facilitating the coupling, at least in part to useful far-field radiation so recovering some of the energy that would otherwise have been lost to non-radiative waveguide-modes

3. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature is adapted to modify~~ means includes means for modifying the intensity, polarisation or spectrum of emitted light.

4. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature~~ means is generally lateral, such as to extend in a substantially parallel plane to the one or more semi-conductor layers and/or further layers of the device.

5. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature is specifically configured to control~~ means includes means for controlling the polarisation state of emitted radiation.

6. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature is adapted to control~~ means includes means for controlling the frequency of radiation emitted in a given direction.

7. (Currently Amended) A LED as claimed in Claim ~~6~~ 1 wherein the ~~periodic microstructure consists of~~ microstructured means includes many regions of different periodicity to couple out light of different colours.

8. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature~~ means is configured in conjunction with the photonic band-structure of the LED to allow for the preferential excitation of one or more desired wave guide modes.

9. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature is~~ means includes periodic corrugations of microscopic scale in the order of 50-2000 nanometers, more preferably between 100 and 600 nm, more preferably between 350 and 450 nm and ideally 400nm.

10. (Previously Presented) A LED as claimed in Claim 1 wherein at least one semiconducting layer, or a component thereof, is capable of light emission by luminescence.

11. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature~~ means is solid such that any or all microstructured layers are continuous.

12. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature~~ means provides the entirety of at least one of the microstructured layers and/or electrodes.

13. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature acts as~~ means is a diffraction grating.

14. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature comprises features in the form of corrugation, which is~~ means comprises corrugations in the form of one or more non-planar surfaces or layers and comprises an array of opposed projecting portions.

15. (Currently Amended) A LED as claimed in Claim 14 wherein the depth between corrugation peaks and troughs is of the order five to hundreds of nanometers.

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16. (Original) A LED as claimed in Claim 15 wherein the depth is between 10 and 200 nm, more preferably between 20 and 120 nm.

17. (Currently Amended) A LED as claimed in Claim 14 wherein the ~~corrugation is~~ corrugations are in the entirety of the layer.

18. (Currently Amended) A LED as claimed in Claim 1 wherein the microstructured ~~feature means~~ comprises areas of modified refractive index.

19. (Original) A LED as claimed in Claim 18 wherein the portions of the layer with modified refractive index are present within the layer and are in the form of lines or areas of modified refractive index laterally across the layer.

20. (Previously Presented) A LED as claimed in Claim 1 comprising at least one organic or organometallic semi-conducting layer.

21. (Original) A LED as claimed in Claim 20 wherein the organic semi-conducting layer comprises a conjugated polymeric material.

22. (Previously Presented) A LED as claimed in Claim 1 comprising at least one inorganic semi-conducting layer.

Claims 23-24 (canceled).

25. (Original) A method for the production of a light emitting diode, wherein a laminar structure is fabricated comprising an electrode adapted for electron injection, a second opposing electrode adapted for hole injection, one or more intermediate semi-conductor layers placed therebetween, and optionally one or more further layers, and further comprising the step of adapting the LED such that there is at least one substantially periodic microstructured feature adapted to manipulate emission and/or propagation of light by coupling non-radiative waveguide-modes to far-field radiation.

26. (Original) The method of Claim 25 wherein the adapting step comprises incorporating at least one semi-conducting organic layer with lateral periodic microstructure of suitable period to facilitate the coupling, at least in part to useful far-field radiation so recovering some of the energy that would otherwise have been lost to non-radiative waveguide-modes.

27. (Original) The method of Claim 26 wherein the semi-conducting organic layer is coated in a layer by means of spin coating, dip-coating, printing, evaporation or epitaxial growth.

28. (Previously Presented) The method of Claim 25 wherein the microstructured feature is produced by embossing, photolithography, microcontact printing or laser holography or by deposition on a microstructured substrate or microstructured contact.

29. (Original) The method of Claim 28 wherein microstructured features are created by exposing a photoresist or other further layer to at least one laser beam.

30. (Original) The method of Claim 29 wherein the microstructure is then transferred from the photoresist layer to the substrate upon which it is supported, typically the transparent support to the LED structure.

Claims 31-32 (canceled).

33. (New) A light-emitting diode (LED) comprising a plurality of layers overlying a silica substrate, said layers including a corrugated photoresist layer overlying said substrate to form a grating, a conducting anode overlying said photoresist layer, a conductive polymer overlying said conducting anode, an emissive layer overlying said conductive polymer, and at least one electrode layer overlying said emissive layer, wherein at least one of the layers overlying said photoresist layer includes periodic microstructure means for manipulating spontaneous emission and propagation of light by coupling non-radiative waveguide modes to far-field radiation.

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34. (New) The LED of claim 33 wherein said periodic microstructure means includes periodic corrugations.